



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------|---------------------|------------------|
| 10/820,416 | 04/07/2004 | Sean Christopher Endler | 81488 7114 | 7822 |
| 37123 7590 04/13/2009 FITCH EVEN TABIN & FLANNERY 120 SOUTH LASALLE STREET SUITE 1600 CHICAGO, IL 60603-3406 | | | | |
| EXAMINER | | | | |
| BASOM, BLAINE T | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2173 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 04/13/2009 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/820,416

Applicant(s)

ENDLER ET AL.

Examiner

Blaine Basom

Art Unit

2173

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-11, 26-28, 30, 32-35, 37-40 and 42-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-11, 26-28, 30, 32-35, 37-40 and 42-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/28/2009
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is responsive to the Request for Continued Examination (RCE) filed under 37 CFR §1.53(d) for the instant application on January 28, 2009. The Applicants have properly set forth the RCE, which has been entered into the application, and an examination on the merits follows herewith.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 27 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 27 expresses that a spherical display shows menu information with a three dimensional effect to distinguish from a video stream, and claim 26 – upon which claim 27 depends – recites that, “the video stream and menu information is [sic] displayed on the outside surface of the spherical display.” The specification describes a spherical display that shows menu information with a three dimensional effect to distinguish the menu information from a video stream, but suggests that such an effect is accomplished by showing the menu information on the outside surface of the spherical display and the video stream on a flat surface of the

spherical display (see e.g. page 15, line 21 – page 16, line 21; and page 18, line 16 – page 19, line 4). That is, the specification does not disclose or suggest showing menu information with a three dimensional effect to distinguish the menu information from a video stream, whereby *both* the menu information and video stream are displayed on the outside surface of the spherical display, as is required by claim 27. Claim 28 is rejected under similar rationale; claim 28 recites that the menu information is shown overlaid on top of the video stream, but the specification does not disclose or suggest showing menu information overlaid on top of a video stream, whereby *both* the menu information and video stream are displayed on the outside surface of the spherical display, as is required by claim 28.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 11, the claim limitation reciting “means for capturing the first content with a content capturing device” uses the phrase “means for” or “step for”, but it is modified by some structure, material, or acts recited in the claim. It is unclear whether the recited structure (i.e. the “content capturing device”) is sufficient for performing the claimed function, which would preclude application of 35 U.S.C. 112, sixth paragraph.

If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to amend the claim so that the phrase “means for” or “step for”

is clearly **not** modified by sufficient structure, material, or acts for performing the claimed function.

If applicant does **not** wish to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to amend the claim so that it will clearly not be a means (or step) plus function limitation (e.g., deleting the phrase “means for” or “step for”).

Further regarding claim 11, the claim limitations reciting “means for displaying...,” “means for simultaneously displaying...”, and “means for scrolling...” are means plus function limitations that invoke 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed functions such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Regarding claim 40, there is no antecedent basis for “the annular display” recited in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 6, 9, 10, 11, 30, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,628,313 to Minakuchi et al. (hereafter “Minakuchi”) and U.S. Patent Application Publication No. 2004/0001111 to Fitzmaurice et al. (hereafter “Fitzmaurice”), as supported by “Merriam Webster’s Collegiate Dictionary, Tenth Edition” (hereinafter “Webster”).

Regarding claims 1 and 11, Minakuchi describes an information retrieval method and system in which main information, specified by the user, is displayed along with sub-information related to the main information (see e.g. column 2, line 65 – column 3, line 21). Minakuchi particularly discloses that the main information and its associated sub-information are presented

via a “virtual sphere” (see e.g. column 8, line 63 – column 9, line 14; and FIG. 5). Like claimed, Minakuchi discloses: means for displaying a first content (i.e. “main information”) on a flat display surface within a spherical display, i.e. virtual sphere (see e.g. column 2, line 65 – column 3, line 12; column 8, line 63 – column 9, line 14; and reference number 201 in FIG. 5); means for simultaneously displaying a second content (i.e. “sub-information”) on an outside surface of the spherical display, i.e. virtual sphere, wherein the spherical display surface is convex (see e.g. column 2, line 65 – column 3, line 21; column 8, line 63 – column 9, line 14; and reference number 203 in FIG. 5); and means for scrolling through one of the first content and the second content (e.g. “rotating” the spherical display surface to scroll through the sub-information) based on instructions while displaying the other one of the first content and the second content (see e.g. column 9, lines 1-14), wherein the spherical display surface is imposed over the flat display surface such that the first content and the second content are distinctly and simultaneously viewed (see e.g. FIG. 5). Minakuchi further discloses that a “memory device” stores the first content, and further suggests that the memory device is in direct physical communication with a housing comprising the display device (see e.g. column 2, line 65 – column 3, line 20; and column 5, line 25 – column 6, line 4). A commonly understood definition of “capture,” with respect to the art, is “to record in a permanent file (as in a computer)” (see e.g. the definition of “capture” provided by Webster). The memory device of Minakuchi is thus considered a “content capturing device,” given the broadest, most reasonable definition of such a device; the memory device of Minakuchi is used for capturing content, i.e. recording content in a permanent file. Accordingly, Minakuchi further teaches capturing the first content with a content capturing device (i.e. a memory device), as is claimed. Minakuchi thereby teaches a method and system

similar to that recited in claims 1 and 11, respectively. Minakuchi, however, does not explicitly disclose that the second content (i.e. the sub-information displayed on the outside surface of the “virtual sphere”) is displayed on an outside surface of a *physical* spherical display surface, wherein the spherical display surface is convex, as is recited in claim 1. Nevertheless, such physical spherical displays are known in the art.

For example, Fitzmaurice demonstrates displaying content via a volumetric display, which can take the form of a physical spherical display (see e.g. paragraph 0024, and FIG. 1). Fitzmaurice further teaches displaying first content on a flat display surface within the spherical display and second content on an outside surface of a physical spherical display surface of the spherical display, wherein the spherical display surface is convex (see e.g. paragraphs 0012-0014; paragraph 0025; paragraph 0027; and FIG. 2).

It would have been obvious to one of ordinary skill in the art, having the teachings of Minakuchi and Fitzmaurice before him at the time the invention was made, to implement the information retrieval method of Minakuchi on the volumetric display of Fitzmaurice, i.e. to display the first content on a flat display surface within the volumetric display and to simultaneously display the second content on an outside surface of a physical display surface of the volumetric display. It would have been advantageous to one of ordinary skill to utilize this combination because such a volumetric display allows a user to have a *true* three-dimensional view of the content, as is taught by Fitzmaurice (see e.g. paragraph 0024). Accordingly, Minakuchi and Fitzmaurice teach a method and system like that of claims 1 and 11, respectively.

As per claim 2, Minakuchi further teaches storing the first content (i.e. “main information”) and the second content (i.e. “sub-information”) in a storage device (see e.g. column 2, line 65 – column 3, line 12; and column 5, lines 56-58).

As per claim 6, Minakuchi suggests that the above-described method and system can be applied to search through pictures (see e.g. column 1, line 64 – column 2, line 35). Minakuchi suggests that the second content (i.e. the “sub-information”) comprises a plurality of icons or thumbnails representative of such pictures from which the user may select (see e.g. FIGS. 5-7; column 6, lines 33-40; column 9, lines 1-14; and column 9, lines 34-58). In such situations, the second content is one of a video stream and digital image, like claimed.

Concerning claim 9, Minakuchi demonstrates that the second content (i.e. the “sub-information”) comprises a plurality of icons or thumbnails from which the user may select (see e.g. FIGS. 5-7; column 6, lines 33-40; column 9, lines 1-14; and column 9, lines 34-58). The second content described by Minakuchi is thus considered “menu information” like claimed.

With respect to claim 10, Minakuchi demonstrates that the spherical display surface displays the second content (i.e. the “sub-information”) in a three dimensional viewpoint (see e.g. column 8, lines 63-67; and reference number 203 in FIG 5). Fitzmaurice similarly suggests that the *physical* spherical display surface displays content in a three dimensional viewpoint (see e.g. paragraphs 0012-0014 and FIG. 2).

As per claims 30 and 35, Fitzmaurice demonstrates that the spherical display is semi-spherically shaped, wherein the spherical display surface substantially spans the semi-spherical shape of the spherical display and the flat display surface is coupled to the physical spherical

display surface and spans a diameter of the physical spherical display surface (see e.g. paragraph 0025 and FIG. 2).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, and Webster, which is described above, and also over U.S. Patent No. 7,107,516 to Anderson et al. (hereafter “Anderson”).

As described above, Minakuchi, Webster, and Fitzmaurice teach a method like that of claim 1, used for searching for information, in which first content provided by a content capture device is displayed on a flat surface within a spherical display and second content is displayed on an outside surface of a physical spherical display surface of the spherical display. Minakuchi suggests that such content can comprise pictures, as is described above (see e.g. the rejection for claim 6). Minakuchi, however, discloses that the content capture device providing the content is a memory device (see e.g. the rejection for claim 1), and not a digital camera as required in claim 4.

Nevertheless, providing content (i.e. pictures) from a digital camera that is in direct physical communication with a display device is well known in the art. For example, Anderson demonstrates directly coupling a display device to a digital camera for the purpose of viewing and searching content captured by the camera (see e.g. column 2, lines 30-51; and column 4, lines 19-44).

Accordingly, it would have been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Webster, Fitzmaurice, and Anderson before him at the time the invention was made, to couple a camera to the spherical display of Minakuchi and Fitzmaurice,

since this would allow the user to view on the display content captured by the user, as is demonstrated by Anderson. Minakuchi, Fitzmaurice, Webster, and Anderson, in combination, are thus considered to teach a method like that of claim 4.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, Anderson, and Webster, as is described above, and also over PCT Publication No. WO 02/21529 to Barbieri.

As described above, Minakuchi, Webster, and Fitzmaurice teach a method like that of claim 1, used for searching for information, in which first content is displayed on a flat surface within a spherical display and second content is displayed on an outside surface of a physical spherical display surface of the spherical display. Anderson further teaches directly coupling a content capture device (i.e. a digital camera) to the spherical display for the purpose of searching through and displaying images captured by the content capture device, as is described above (see the rejection for claim 4). Minakuchi, Fitzmaurice, Webster, and Anderson, however, do not explicitly disclose that the content capturing device is a video camera, like recited in claims 5. Nevertheless, capturing video streams with a video camera, and then searching through the captured information is well known in the art.

For example, Barbieri teaches displaying a digital video image (considered analogous to the “main information” of Minakuchi) and determining similar video images (considered analogous to the “sub-information” of Minakuchi) that are associated with the video image (see e.g. page 2, lines 11-34). Such digital video images are necessarily taken with a content

capturing device, i.e. a digital video camera, as is well-known in the art (see e.g. page 9, lines 31-34 of Barbieri).

Accordingly, it would have been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Webster, Fitzmaurice, Anderson, and Barbieri before him at the time the invention was made, to apply the spherical display of Minakuchi and Fitzmaurice to search for particular video images within a video stream captured by a digital video camera, like taught by Barbieri. That is, it would have been obvious to modify the spherical display of Minakuchi and Fitzmaurice such that the main information (i.e. the first content) is a video image, which has been captured by a content capturing device, i.e. a digital video camera. It would have been advantageous to one of ordinary skill to apply the interface of Minakuchi to search video, because video search functionality is becoming useful due to the increase of multimedia data that can be stored in home devices, as is taught by Barbieri (see e.g. page 1). Minakuchi, Fitzmaurice, Webster, Anderson, and Barbieri, in combination, are thus considered to teach a method like that of claim 5.

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, and Webster, as is described above, and also over U.S. Patent Application Publication No. 2002/0030665 to Ano.

As described above, Minakuchi, Webster, and Fitzmaurice teach a method like that of claim 1, used for searching for information, in which first content is displayed on a flat surface within a spherical display and second content is displayed on an outside surface of a physical spherical display surface of the spherical display. This second content is scrolled in response to

instructions based on an input device, e.g. a trackball (see e.g. paragraph 0082). As such, Minakuchi does not explicitly disclose that these instructions for scrolling are based on rotating a playback ring or knob, as is expressed in claims 7-8.

Nevertheless playback rings and knobs are well-known types of input devices used for scrolling displayed information. For example, Ano describes a playback ring (i.e. a “wheel”), considered a type of knob, which is used in conjunction with, e.g. a trackball, to scroll through content displayed on a screen (see e.g. paragraphs 0005, 0009, and 0098-0101).

It would have therefore been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Webster, Fitzmaurice, and Ano before him at the time the invention was made, to apply the playback ring of Ano to scroll through the displayed content of Minakuchi and Fitzmaurice, i.e. to rotate the spherical display. It would have been advantageous to one of ordinary skill to use such a playback ring, because it allows the user to more efficiently scroll through content, as is demonstrated by Ano (see e.g. paragraphs 0006-0009). Minakuchi, Fitzmaurice, Webster, and Ano, in combination, are thus considered to teach methods like recited in claims 7 and 8.

Claims 32 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, Webster, Anderson, and Barbieri, which is described above (i.e. in the rejection for claim 5).

As described above, Minakuchi, Webster, and Fitzmaurice teach a method like that of claim 1 and a system like that of claim 11, used for searching for information, in which first content is displayed on a flat surface within a spherical display and second content is displayed

on an outside surface of a physical spherical display surface of the spherical display. Barbieri particularly teaches that the first content can be a video stream or digital image captured with a content capturing device, as is described above (see e.g. the rejection for claim 5). Minakuchi, Webster, Fitzmaurice, Anderson, and Barbieri, however, do not explicitly teach controlling at least one of the direction and speed of such a video stream, as is required by claims 32 and 37. Nevertheless providing users the ability to control the direction and speed of playback of a video stream (by e.g. fast forward, reverse, etc. functions) is notoriously well known in the art. The Examiner takes OFFICIAL NOTICE of this teaching. Accordingly, it would have been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Fitzmaurice, Anderson, and Barbieri before him at the time the invention was made, to allow a viewer watching the first content (e.g. a video stream) displayed by the spherical display of Minakuchi, Fitzmaurice, Anderson, and Barbieri to change the direction or speed of playback of the content, like known in the art. It would have been advantageous to one of ordinary skill to apply this modification because it allows the user to, for example, skip over parts of the content (i.e. by fast forward operations) that are not interesting to the user, as is known in the art. Minakuchi, Fitzmaurice, Webster, Anderson, and Barbieri are thus considered to further teach - to one of ordinary skill in the art - a method and system like that of claims 32 and 37, respectively.

Claims 33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, Webster, Anderson, and Barbieri, which is described above (i.e. in the rejection for claim 5), and also over U.S. Patent Application Publication No. 2004/0264579 to Bhatia et al. (hereafter "Bhatia").

As described above, Minakuchi, Webster, and Fitzmaurice teach a method like that of claim 1 and a system like that of claim 11, used for searching for information, in which first content is displayed on a flat surface within a spherical display and second content is displayed on an outside surface of a physical spherical display surface of the spherical display. Barbieri particularly teaches that the first content can be a video stream or digital image captured with a content capturing device, as is described above (see e.g. the rejection for claim 5). Minakuchi, Webster, Fitzmaurice, Anderson, and Barbieri, however, do not explicitly disclose that multiple video feeds are simultaneously displayed, as is required by claims 33 and 38. Nevertheless, simultaneously displayed multiple video feeds are well known in the art. For example, Bhatia demonstrates a method for simultaneously displaying a plurality of video streams (see e.g. paragraphs 0011-0014). It would have been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Webster, Fitzmaurice, Barbieri, Anderson, and Bhatia before him at the time the invention was made, to apply the display of Minakuchi, Fitzmaurice, Anderson, and Barbieri to simultaneously display a plurality of video feeds, because it is a useful feature in video presentation systems, as taught by Bhatia (see e.g. paragraphs 0004-007). Minakuchi, Fitzmaurice, Webster, Anderson, Barbieri, and Bhatia, in combination, are thus considered to teach a method and system like that of claims 33 and 38, respectively.

Claims 34 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, Webster, Anderson, and Barbieri, which is described above (i.e. in the rejection for claim 5), and also over U.S. Patent Application Publication No. 2003/0146915 to Brook et al. (hereafter “Brook”).

As described above, Minakuchi, Webster, and Fitzmaurice teach a method like that of claim 1 and a system like that of claim 11, used for searching for information, in which first content is displayed on a flat surface within a spherical display and second content is displayed on an outside surface of a physical spherical display surface of the spherical display. Barbieri particularly teaches that the first content can be a video stream or digital image captured with a content capturing device, as is described above (see e.g. the rejection for claim 5). Minakuchi, Webster, Fitzmaurice, Anderson, and Barbieri, however, do not explicitly disclose that the spherical display is configured to apply special effects (i.e. sepia tone, black and white tone, and/or slow shutter effect) to a portion of this content, as is required by claims 34 and 39. Nevertheless applying such special effects to video is well known in the art. For example, Brook demonstrates applying sepia tone and black and white special effects (see e.g. paragraph 0186). It would have been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, and Brook before him at the time the invention was made, to modify the display of Minakuchi, Fitzmaurice, Anderson, and Barbieri to apply special effects to the content, like taught by Brook. It would have been advantageous to one of ordinary skill to apply this modification because it allows the user to, for example, change to appearance of the content to suit his or her taste, as is demonstrated by Brook. Minakuchi, Fitzmaurice, Webster, Anderson, Barbieri, and Brook, in combination, are thus considered to teach a method and system like that of claims 34 and 39, respectively.

Claims 26-28 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, Webster, Anderson, and Barbieri, which is

described above (i.e. in the rejection for claim 5), and also over the teachings of Ano, which are also described above.

Specifically regarding claim 26, Minakuchi describes a spherical display for simultaneously displaying first content and second content, wherein the spherical display is convex, wherein the second content is displayed on the outside surface of the spherical display, and wherein the first and second content are stored in a storage module, as is described above (see e.g. the rejection for claim 1). Minakuchi suggests that the second content (i.e. the “sub-information”) can comprise a plurality of icons or thumbnails representative of pictures from which the user may select (see e.g. FIGS. 5-7; column 6, lines 33-40; column 9, lines 1-14; and column 9, lines 34-58). Such second content is thus a menu comprising a plurality of images, i.e. Minakuchi teaches simultaneously displaying image and menu information on an outside surface of a spherical display. Fitzmaurice teaches displaying such content on a *physical* spherical display, wherein the physical spherical display is convex, and wherein content is displayed on the outside surface of the spherical display, as is described above (see e.g. the rejection for claim 1). Also, Barbieri teaches applying such an interface to search for video content, i.e. such that the second content includes a video content, as is also described above (see e.g. the rejection for claim 5). Anderson teaches directly coupling a content capture device to the spherical display for the purpose of searching a displaying images captured by the content capture device (see e.g. the rejection for claim 4). Accordingly, the above-described combination of Minakuchi, Webster, Fitzmaurice, Anderson, and Barbieri teach a device similar to that of claim 26, which comprises: a content capturing device for capturing first content (i.e. video); a physical spherical display for simultaneously image (i.e. video) and menu information wherein the physical

spherical display is convex, and wherein the video and menu information is displayed on the outside surface of the spherical display; and a storage module to store the first content and second content. Minakuchi discloses that this second content is scrolled (i.e. the spherical display is rotated) in response to instructions based on an input device, e.g. a trackball, as is described above. As such, Minakuchi, Webster, Fitzmaurice, Anderson, and Barbieri do not explicitly disclose that these instructions for scrolling are based on rotating a playback ring, as is expressed in claim 26. Nevertheless playback rings are well-known types of input devices used for scrolling displayed information. For example, Ano describes a playback ring (i.e. a “wheel”), which is used in conjunction with, e.g. a trackball, to scroll through content displayed on a screen (see e.g. paragraphs 0005, 0009, and 0098-0101). It would have therefore been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Webster, Barbieri, Anderson, Fitzmaurice, and Ano before him at the time the invention was made, to apply the playback ring of Ano to scroll through the displayed content of Minakuchi and Barbieri, i.e. to rotate the spherical display. It would have been advantageous to one of ordinary skill to use such a playback ring, because it allows the user to more efficiently scroll through content, as is demonstrated by Ano (see e.g. paragraphs 0006-0009). Minakuchi, Fitzmaurice, Webster, Anderson, Barbieri, and Ano are thus considered to teach – to one of ordinary skill in the art – a device like that of claim 26.

As per claim 27, Minakuchi demonstrates displaying the second content, i.e. menu information, with a three dimensional effect to distinguish it from other content (see e.g. FIG. 5). Barbieri teaches that such content could include a video stream (see e.g. the rejection for claim

5). Accordingly, the combination of Minakuchi, Fitzmaurice, Anderson, Barbieri, and Ano described in the previous paragraph is further considered to teach a device like that of claim 27.

Concerning claim 28, Minakuchi demonstrates displaying the second content, i.e. menu information, overlaid on top of other content (see e.g. FIG. 5). Barbieri teaches that such content could include a video stream (see e.g. the rejection for claim 5). Accordingly, the above-described combination of Minakuchi, Fitzmaurice, Anderson, Barbieri, and Ano is further considered to teach a device like that of claim 28.

As per claim 40, Fitzmaurice demonstrates that the display surface is semi-spherically shaped, wherein the display surface substantially spans the semi-spherical shape of the physical display and the flat display surface is coupled to the physical display and spans a diameter of the physical display (see e.g. paragraph 0025 and FIG. 2).

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, Webster, Anderson, Barbieri, and Ano, which is described above.

As described above, Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, and Ano teach a device like that of claim 26, used for searching for information, in which content is displayed on the outside surface of a spherical display. Barbieri particularly teaches that the content can be a video stream or digital image captured with a content capturing device, as is described above (see e.g. the rejection for claim 5). Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, and Ano, however, do not explicitly teach controlling at least one of the direction and speed of such a video stream, as is required by claim 42. Nevertheless proving

users the ability to control the direction and speed of playback of a video stream (by e.g. fast forward, reverse, etc. functions) is notoriously well known in the art. The Examiner takes OFFICIAL NOTICE of this teaching. Accordingly, it would have been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, and Ano before him at the time the invention was made, to allow a viewer watching the content (e.g. a video stream) displayed by the spherical display of Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, and Ano to change the direction or speed of playback of the content, like known in the art. It would have been advantageous to one of ordinary skill to apply this modification because it allows the user to, for example, skip over parts of the content (i.e. by fast forward operations) that are not interesting to the user, as is known in the art. Minakuchi, Fitzmaurice, Webster, Anderson, Barbieri, and Ano are thus further considered to teach – to one of ordinary skill in the art – a device like that of claim 42.

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, Webster, Anderson, Barbieri, and Ano, which is described above, and also over U.S. Patent Application Publication No. 2004/0264579 to Bhatia et al. (hereafter “Bhatia”).

As described above, Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, and Ano teach a device like that of claim 26, used for searching for information, in which content is displayed on the outside surface of a physical display. Barbieri particularly teaches that the content can be a video stream or digital image captured with a content capturing device, as is described above (see e.g. the rejection for claim 5). Minakuchi, Fitzmaurice, Anderson, Barbieri,

and Ano, however, do not explicitly disclose that multiple video feeds are simultaneously displayed, as is required by claim 43. Nevertheless, simultaneously displayed multiple video feeds are well known in the art. For example, Bhatia demonstrates a method for simultaneously displaying a plurality of video streams (see e.g. paragraphs 0011-0014). It would have been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, Ano, and Bhatia before him at the time the invention was made, to apply the physical display of Minakuchi, Fitzmaurice, Anderson, Barbieri, and Ano to simultaneously display a plurality of video feeds, because it is a useful feature in video presentation systems, as taught by Bhatia (see e.g. paragraphs 0004-007). Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, Ano, and Bhatia are thus considered to teach – to one of ordinary skill in the art – a device like that of claim 43.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minakuchi, Fitzmaurice, Webster, Anderson, Barbieri, and Ano, which is described above, and also over U.S. Patent Application Publication No. 2003/0146915 to Brook et al. (hereafter “Brook”).

As described above, Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri and Ano teach a device like that of claim 26, used for searching for information, in which content is displayed on the outside surface of a physical spherical display. Barbieri particularly teaches that the content can be a video stream or digital image captured with a content capturing device, as is described above (see e.g. the rejection for claim 3). Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, and Ano, however, do not explicitly disclose that the physical spherical

display is configured to apply special effects (i.e. sepia tone, black and white tone, and/or slow shutter effect) to a portion of this content, as is required by claim 44. Nevertheless applying such special effects to video is well known in the art. For example, Brook demonstrates applying sepia tone and black and white special effects (see e.g. paragraph 0186). It would have been obvious to one of ordinary skill in the art, having the teachings of Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, Ano, and Brook before him at the time the invention was made, to modify the display of Minakuchi, Fitzmaurice, Anderson, Barbieri, and Ano to apply special effects to the content, like taught by Brook. It would have been advantageous to one of ordinary skill to apply this modification because it allows the user to, for example, change to appearance of the content to suit his or her taste, as is demonstrated by Brook. Minakuchi, Webster, Fitzmaurice, Anderson, Barbieri, Ano, and Brook are thus considered to teach – to one of ordinary skill in the art – a device like that of claim 44.

Response to Arguments

The Examiner acknowledges the Applicants' amendments to claims 1, 6-11, 26-27, 30, 32-35, 37-40, and 43-44. In response to these amendments, the 35 U.S.C. §112, first paragraph, rejection presented in the previous Office Action to claims 1, 11, and 26 is respectfully withdrawn.

Regarding the pending claims, the Applicants argue that Minakuchi, Hirata (U.S. Patent No. 5,946,142 to Hirata et al., cited in the previous Office Action), Anderson, Barbieri, Ano, Bhatia, and Brook fail to describe or suggest “simultaneously displaying a second content on an outside surface of a physical spherical display surface of the display, wherein the spherical

display surface is convex,” as required by independent claims 1, 11, and 26. In response, the Examiner again presents the U.S. Patent Application Publication to Fitzmaurice et al.¹, which as shown above (see e.g. the rejection for claim 1), teaches simultaneously displaying a second content on an outside surface of a physical spherical display surface of a display, wherein the spherical display surface is convex. The Applicant's arguments with respect to the pending claims have thus been considered, but are moot in view of the new grounds of rejection presented hereinabove.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blaine Basom whose telephone number is (571)272-4044. The examiner can normally be reached on Monday through Friday, from 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu Vu can be reached on (571)272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

¹ The Fitzmaurice et al. reference was originally introduced in the Office Action mailed on August 20, 2007.

Art Unit: 2173

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BTB/

4/6/2009

/Kieu D Vu/

Primary Examiner, Art Unit 2175